



EAFRD-funded projects

# Woola



## Replacing plastic bubble wrap by producing packaging out of waste wool

Company in rural Estonia develops system and products to replace plastic bubble wrap packaging with packing materials made from waste wool.

The owners of an e-commerce business wanted to find an alternative to the huge amount of plastic bubble wrap used in their business for packing material, but in searching for alternatives, there was a lack of sustainable and scalable protective packing options. Additionally, 90% of the wool produced in Estonia every year was wasted, likely illegally disposed of as there was no system or infrastructure for farmers to sell their waste wool for other purposes. Woola was a company founded to develop alternative packing materials using waste wool in order to replace plastic bubble wrap.



### Location

Paldiski (Estonia)

### Programming period

2014 - 2020

### Priority

P6 - Social Inclusion and Economic Development

### Measure

M19 - LEADER/CLLD

### Funding (EUR)

Total budget 127 428

EAFRD 61 166

National/regional 15 291

Private 50 971

### Project duration

2020 - 2022

### Project promoter

Woola OÜ

### Contact

[moon@woola.io](mailto:moon@woola.io)

### Website

[www.woola.io](http://www.woola.io)

## Results

The project has resulted in replacement of plastic bubble wrap by packing materials made of a sustainable waste product, wool that would have been buried or burned by farmers. A digital platform has been created to facilitate wool exchange in Estonia as well as interaction amongst farmers. The wool-based packing materials can be reused multiple times, so the company has also set up a returns system for customers. Jobs for young people have been created in an area with a lack of employment opportunities, with the available opportunities paying higher than other options and being accessible to those without special machinery skills or the ability to take on physically demanding jobs.

## Lessons & Recommendations

During the course of the project Woola learnt that the problem with waste wool is even more widespread than initially thought. Woola has been contacted by farmers not only from Estonia but many other countries in Europe and worldwide. Sheep farmers offered either to sell or give waste wool away.

### ENRD Contact Point

Rue de la Loi, 38 Boîte n.4 - 1040

Brussels, Belgium

Tel. +32 2 801 38 00

Email: [info@enrd.eu](mailto:info@enrd.eu)

Website: [enrd.ec.europa.eu](http://enrd.ec.europa.eu)

## Context

Plastic is a growing global problem. The total weight of plastic on Earth is four times the biomass of all living animals and we recycle only under 10 % of it. E-commerce is one of the fields using lots of plastic packaging for deliveries. One of the packaging solutions is plastic bubble wrap which is made from polyethylene that takes more than 500 years to decompose. The project developers (Anna-Liisa Palatu, Jevgeni Širai, Katrin Kabun) while looking for alternatives to packaging solutions, found that there was a lack of sustainable and scalable protective packing options for the e-commerce business that they were running at the time.

They came across the fact that there is a huge amount of sheep wool that gets thrown out or gets burned every year. Sheep are grown for other reasons besides their wool, but they still need to be sheared every year. In Estonia, about 90% of all wool is [wasted](#).

Furthermore, the project's activities are centred in Paldiski, an area of Estonia where there is a huge lack of jobs, and all the existing jobs require special skills working with heavy machinery and strength.

## Objectives

A start-up company, Woola, was created (as a separate company to the e-commerce business) to buy and transform waste wool into alternative packing materials to replace plastic bubble wrap. Wool is a naturally high-tech fibre. Its elasticity, water repellence, and resistance to temperature extremes make wool a perfect material for packing items that need extra cushioning. Packaging made of wool is durable and can be reused multiple times. Thus, a returns system is being set up for the end user, with the ultimate goal of making the solution "closed-loop" so that nothing goes to waste.

## Activities

Woola replaces plastic bubble wrap with products made of wool that would otherwise be burned or buried. Produced in the company's factory in Paldiski, these products are better for the environment, better-looking, customisable and scalable to the customer's needs. The company currently has three different products: envelopes, bottle sleeves and bubble wool.

Direct LEADER funded activities:

- Purchase of a heat press and other supplies for production.
- Acquisition of work surfaces (warehouse furniture).
- Purchase of a hydraulic cutter.
- Purchase of office equipment.

## Main results

Woola has developed a network of 6-7 sheep farms with whom it cooperates and collects waste wool to repurpose. Prior to the project, 90% of the wool went to waste, either being illegally buried or burned due to a lack of a system or infrastructure for reusing it. Woola helped create a digital platform for wool exchange in Estonia to allow other potential customers to communicate with producers and for farmers to communicate with each other. Woola has achieved a high level of sales in the Estonian market to companies and end consumers who want to lower their consumption of single-use plastics. At the end of 2020, Woola also started selling in foreign markets. Woola products can be purchased in the company's e-store or through its sales agents for larger orders, or in smaller quantities in all Estonian «packing centre» stores. Woola established its factory in Paldiski in order to provide work and new opportunities to people living in the area – the company provides a safe workplace with a job suitable for everyone and a higher salary than other jobs in the area. Currently, a total of 10 employees work at Woola's premises.

---

### Additional sources of information

[Woola raises €2.5M seed led by Future Ventures to replace bubble wrap with wool](#)

[Backed by the Estonian sheep ecosystem, Woola is replacing plastic packaging](#)

This project has been categorised under 'Green futures' by the nominating National Rural Network